Functional capacity and sociodemographic conditions of older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil

Abstract

Goals: To evaluate the degree of functional capacity and sociodemographic conditions of older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Manaus, Amazonas, Brazil.

Methods: a descriptive cross-sectional research study approach using an individual structured interview script (questionnaire), with both open and closed questions about Activities of Daily Living (ADLs), and Independent Activities of Daily Living (IADLs) being complemented with sociodemographic information.

Results: the subjects were 34 older people: 21(61.75%) older women and 13(38.25%) older men. Of these older women, 33.33% were illiterate; in older men, this percentage was 61.54%. Questioned about the civil status, 23.81% of the older women and 23.08% of the older men affirmed to be married; 47.62% of the older women and 46.15% of the older men were widows. About the economic situation, 52.94% survived with 01 minimum wage. In relation to health status, 57.14% of the older women considered having good health, despite the sequelae left by leprosy; in contrast, only 38.46% of the older men reported having this same health status. In relation to memory, 61.90% of the older people stated that they had a good memory. Among the older people who participated in the survey, 82.35% had modified independence in relation to all daily activities. The greatest difficulty faced by these older people was to use public transportation for which 92.24 of older women and 100.00% of older men reported some degree of difficulty.

Conclusion: This study provides important basic information on the situation of older people with leprosy sequelae or affected by leprosy in the Leprosy General Hospital Dr Geraldo da Rocha and it can serve as a basis for managers in the hospital, municipal and state government levels to make the necessary decisions that lead to an improvement in the quality of life of these older people affected by this disease, institutionalized or not, in the same or different health conditions.

Keywords: older people, leprosy sequelae, functional capacity

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Abbreviations: BADLs, basic activities of daily living; ADLs, activities of daily living; IADLs, instrumental activities of daily living; UEA, universidade do estado do amazonas; TCLE, termo de consentimento livre e esclarecido (free and informed consent form); CONEP, comitê nacional de ética em pesquisa (national commission for ethics in research); CEP, comitê de ética em pesquisa (research ethics committee); IBGE, instituto brasileiro de geografia e estatística; FAPEAM, fundação de amparo à pesquisa do estado do amazonas.

Introduction

The natural process of ageing bringing with it physiological stress and pathologies, often of a genetic nature, degenerative and chronic diseases.¹ Since ageing is a dynamic and progressive process in which there are morphological, functional and biochemical alterations that go altering progressively the organism, making it more susceptible to aggressions.² It is noticed that in the changes related to age there are the presence of risk factors and the occurrence of chronic degenerative diseases, which determine for older people a certain degree of dependence, directly related to the loss of autonomy and

difficulty to perform the Basic Activities of Daily Living (BADLs), interfering in their quality of life.^{3,4}

One of the pathologies that leave sequelae is leprosy and it can be observed mainly in older people due to the fact that the disease has a slow development. As we know, leprosy is an infectious, degenerative and transmissible disease caused by bacillus *Mycobacterium leprae*.^{5,6} (also known as Hansen's bacillus). Its nervous manifestations are always present because the peripheral nervous system is the place where the *M. Leprae* develops, thus causing sensitivity disorders in the affected nerve region and in skin lesions. The most affected nerves are the radial nerve (which when affected prevents the extension of the hand, producing the so-called "fallen hand"), the cubital (ulnar) nerve, the median nerve on the wrist, external sciatica popliteal nerve (when affected preclude the foot from remaining in the normal position and makes the gait), the posterior tibial and the upper branch of the vagus nerve,⁷ leading people who suffer from this disease, gradually to the loss of their functional capacity.^{8,9}

The functional capacity, especially in the motor dimension, is one of the most important markers of successful ageing and quality of life

of the older people.¹⁰ This loss of functional capacity is associated with the prediction of fragility, dependence, institutionalization and increased risk of falls, death and mobility problems, bringing complications over time and generating long-term care and high cost. It has been found that it is much easier to avoid deaths than to avoid the development of disabilities associated with ageing. Each year, about 10.00% of the older adult population life is deeply affected by impeding them from performing activities such as bathing, dressing, eating and personal hygiene.¹¹

The functional capacity is the independence to perform the activities of daily living.¹² However, the functional capacity goes beyond the performance of daily activities. This is the ability to maintain the physical and mental skills necessary for an independent life, valuing autonomy and self-determination.¹³ Therefore, from these concepts, it can be understood that functional capacity is a set of physical, intellectual and emotional needs that each individual has and must have. The factors most strongly associated with functional capabilities are related to the presence of some diseases, disabilities or medical problems. However, it is observed through some studies that this capacity also is influenced by factors such as demographic, socioeconomic, cultural and psychosocial factors and it is of great importance to evaluate them in order to know their influence on the functional capacity of the older people.¹⁴

Some researcher as Katz et al.,¹⁴ Lawton-Brody¹⁵ and Paula¹⁶ proposed two scales of functional assessment that classified daily activities in consensus to their level of complexity. The first scale, the Activities of Daily Living (ADLs), is represented by the basic activities that are required in the daily lives of older people. While the second scale, which concerns about Instrumental Activities of Daily Living (IADLs), is represented by more complex tasks that require an adaptation of the individual in the environment. The ADLs and IADLs are activities that, for older people, have a high degree of complexity, especially for those older people with leprosy sequelae.

Functional capacity is considered a new health paradigm,¹⁷ it is being of crucial value for prevention and health promotion of older people. It is thought that carrying out researches in this sense, we will be able, in the future to: diagnose, treat, rehabilitate and avoid in the older people these kinds of complications. In this respect, this study aimed to evaluate the functional capacity and sociodemographic conditions of older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil.

Methods

Type of Study

This research was a descriptive cross-sectional research study approach.

Place of study

The research was developed in the leprosary sector of the Dr Geraldo da Rocha Hospital located at Tancredo Neves Street - s/n, Colônia Antônio Aleixo, Manaus, Amazonas.

Population

The research consisted of a census of all the older with leprosy sequelae residents in the hospital, who, at the moment of this research, currently represented a population of 34. Of these, 13 were older men and 21 were older women.

Inclusion criteria

The inclusion criteria considered were: 1) age ≥ 60 years, 2) currently residing in the Dr Geraldo da Rocha Hospital, 3) agreeing to participate in the research, 4) signing the informed consent form (ICF) and 5) to have cognitive conditions to answer the questions or a caregiver to do so.

Data collection instrument

As an instrument for data collection, we used an individual structured interview script (questionnaire), with both open and closed questions. The questionnaire used was adapted from Fonseca¹⁸ and complemented with others.^{19,20} It contained questions related to functional capacity and sociodemographic profile of the older people with leprosy sequelae.

Ethical aspects

This research involving human beings was approved by the Secretaria Municipal de Saúde de Manaus - SEMSA (Manaus Municipal Health Secretariat) and the Comitê de Ética em Pesquisa - CEP (Research Ethics Committee) of Escola Superior de Ciências da Saúde (College of Health Sciences) of the Universidade do Estado do Amazonas - UEA (The University of the State of Amazonas) (process number - 052/09, 11/05/09) observing the resolution 196/96, of the Comitê Nacional de Ética em Pesquisa (CONEP) (National Commission for Ethics in Research), regarding the rights of individuals subject to research, related to ethical principles such as study benefits, privacy, non-maleficence, justice, autonomy and veracity.

Data collection

After approval by the Research Ethics Committee, the study subjects were informed about the objective, necessity and importance of the project. As the subjects agreed, they signed the ICF, consenting with the participation of the research. Interviews and data collection were conducted in the morning and afternoon hours in leprosy sector of the Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, in 2010, with the collaboration of nurses and other health agents and caregivers who were willing to collaborate, after a brief presentation of the researchers and the research project to the older people with leprosy sequelae. In cases where the older people for some reason could not respond to the interview, an indirect interview was conducted with the caregiver of them. It is worth mentioning that all interviewees or caregivers interviewed also had to sign the ICF.

Data analysis

The collected data were organized in a database Microsoft Office Excel v. 2010 for subsequent statistical analysis. Data pertinent to the socio-demographic, economic and epidemiological profile and on the capacity of the older people to perform ADLs and Instrumental IADLs were analyzed using descriptive statistics.²¹⁻²⁵ Data were analyzed with the following software: Minitab v.14, SPSS v.20 and Epi Info v.6 and 7.1.

Results and discussion

The group of older people studied was thirty-four (34). The older women had a representation of 61.75% and the older men of 38.25%. This result confirms the Brazilian reality with respect to a higher index of older women in relation to older men in the third age.²⁶⁻²⁸ Of these older people, illiterate older women were 33.33%; already for older men, this percentage was 61.54% (Table 1). These percentages

are compatibles with 11.00% completed primary school obtained by Alves et al.²⁹ in Juiz de Fora, Minas Gerais. While Hurtado-Guerrero et al.²⁸ in Manacapuru, Amazonas, reported that 35.90% had an uncompleted primary school.

Table 1 Education, conforming to sex, for older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil.

Variable	Older women		Older men		Total	
	n	%	n	%	n	%
Literate	14	66.67	5	38.46	19	55.88
Illiterate	7	33.33	8	61.54	15	44.12
Total	21	100.00	13	100.00	34	100.00

Source: authors; n, sample size; %, percentage

Table 2 Marital status, pursuant to sex, for older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil.

Variable	Older women		Older men		Total	
	n	%	n	%	n	%
Widower	10	47.62	6	46.15	16	47.06
Divorced	4	19.05	4	30.77	8	23.53
Married	5	23.81	3	23.08	8	23.53
Single	2	9.52	0	0.00	2	5.88
Total	21	100.00	13	100.00	34	100.00

Source: authors; n, sample size; %, percentage

Questioned about marital status, 23.81% of older women and 23.08% of older men said they were married; 47.62% of older women and 46.15% of older men were widows (Table 2). As confirmed by Ricci et al.³⁰ and Camarano et al.,³¹ there is a high prevalence of widowed, divorced or single older people, data also attested by the present study. The fact that older people do not have a spouse can directly influence their self-care, since the lack and especially the loss of a company can lead to depression and thus they may become displeased with their physical and physiological needs, thus becoming more vulnerable to various diseases.

In the identification of the professional activities exercised by the older people previously, since 100.00% of older people were retired, the following ones were found: agriculture was the predominant profession in this group (41.06%) and others such as domestic works, carpentry, health, car mechanics and general services, represented (58.94%), it was similar to the outcome found in other studies.^{32,33} The main cause why older people getting to be all retired was mutilations, especially in limbs, caused by Hansen's bacillus, thus making retirement wages the only source of income for all them, coinciding with the research of Nogueira et al.³⁴ when it analyzed the functional capacity of older with leprosy in Fortaleza. Agriculture appeared as a predominant activity exercised by the older people before the sequels left by leprosy, due to the fact that they came from various interior settlements in which one of the most profitable and viable activities is the cultivation of land.

Through the study, it was also possible to make an analysis of the economic situation of these older people, being observed that 52.94% of them received only 01 minimum wage and only 11.76% received 04 minimum wages monthly. As stated by the above percentages, most of the older people surveyed had a monthly income of only

one minimum wage. Ramos²⁶ and Sakamoto et al.³³ affirmed that the financial situation of the older people is directly related to their physical and mental health and is associated with the low functional capacity present mainly in those older people with low income. In conformity with data from IBGE,^{27,35} the economic conditions of these older people are compatible with those of the whole country, considering that about 50.00% of them in Brazil have a monthly income lower than or equal to a minimum wage.

Figure 1 Income distribution of older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil. Source: authors.

This study also sought to identify the social participation of these older people with leprosy sequelae, to know their level of social inclusion, since they are constantly targeting of bullying prejudiced attitudes due to their mutilations resulting from the advancement of the disease. It was observed that only 35.29% of these individuals practice some social activity, while 64.71% never participated in such activities. However, all of them reported participating only in

religious groups. Several studies have claimed that religion can reduce the fear of death experienced by some older people.³⁶⁻⁴⁰ Through their studies^{36,39} with older people who had depression, these researchers demonstrated that mental health also improves with religiosity, and these people recovered 70.00% faster than the others.³⁶

With regard to the care of this older people in cases of illness or help, in general, this study found that the caregivers are, in the vast majority of cases, belonging to the family itself, especially represented by sons (44.12%) and grandchildren (23.53%). Others such as wives, friends, health workers and volunteers (32.35%). The others, concerned people who worked for them doing household chores, since they have no relatives or friends who could help them. As stated by diverse studies,⁴¹⁻⁴³ the household arrangement showed that Brazilians older people still live, mostly, sharing the household with children and sometimes with children and grandchildren. This type of household can be called multigenerational and accommodates 50.00% of older people in this country. For this reason, the data confirmed more intense family support to them. In contrast, this situation is not experienced in the countries of Europe, since the older population of these countries lives mostly alone.

The older people also were asked to inform how they classified their state of health and memory. Concerning health status, 57.14% of the older women considered having good health, despite the sequelae left by leprosy. In contrast, only 38.46% of older men reported having this same health status. In relation to memory, 61.90% of older women and older men stated that they had a good memory (**Table 3**). As explained before, most of them considered themselves to be in good health. And most of them in this study, when analyzing the variables of functional capacity, have some degree of dependence.^{4,44} This research confirms a previous study which was found to be at greater risk, for the development of functional disabilities, older people who had a more pessimistic assessment in relation to their health status.^{29,45} The ageing process is a period of life in which there are the appearance and prevalence of chronic diseases, physical disability, cognitive loss^{46,47} and social isolation. The results of this research show that 85.29% of them self-evaluate their health as good or regular, being compatible with another studies^{2,57}, in which 6.00% of the older people declared to have good health and only 6.00% considered to have a very poor state of it.

Table 3 State of health and memory, related to sex, of the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil

Variables	Health						Memory					
	Older women		Older men		Total		Older women		Older men		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Health status and memory												
Great	0	0.00	0	0.00	0	0.00	1	4.76	2	4.76	3	8.82
Good	12	57.14	5	38.46	17	50.00	13	61.90	3	61.90	16	47.06
Regular	7	33.33	5	38.46	12	35.29	6	28.57	6	28.57	12	35.29
Bad	2	9.52	3	23.08	5	14.71	1	4.76	2	4.76	3	8.82
Total	21	100.00	13	100.00	34	100.00	21	100.00	13	100.00	34	100.00

Source: authors; n, sample size; %, percentage

When asked about the pain, 29 (89.29%) of the older people reported feeling pain constantly in at least one part of the body, while 5(14.71%) were living without pain. As it is shown below (**Figure 2**), of 29 older people with pain, their most affected body segments were: eyes (17.24%), spine (17.24%), legs (13.79%), bones (13.79%) and hands (10.34%). Other health concerns represented (27.59%). In this group studied there was a particularity in relation to eyes pain since they had the loss of visual capacity more pronounced than in the normal older people because the bacillus that causes leprosy affects the anterior segment of the eye and it is the iris most affected.^{48,49} Pain in the limbs and joints are also common in the older people with leprosy sequelae because *M. leprae* also affects the peripheral nerves causing pain and mutilation.

The older people who said to have the independence to take their medications at the right time represented 88.24% of those surveyed. It was observed that 11.76% of the older people needed help to remember that they should take their medications, to take them at the right time or to pick them up. This result is similar to those identified

by other studies,⁵⁰⁻⁵² who in their researches showed that near 12.40% of all older people had the same difficulties to take the medications like those of the Dr Geraldo da Rocha Hospital.

This study also aimed to identify the older people who make use of self-medication, that is, respecting the purchase of medicine without a prescription, excluding the cases in which they return to purchase a medicine previously prescribed. It was found that among older women this practice is present in 38.10% of them. This percentage rises to 46.15% for older men, with an average of 41.18% for both older people making use of self-medication. Self-medication is a very common practice adopted by the vast majority of the population. The main causes for its existence are: the great impossibility of a good part of the people to have access to the medical or dentistry attendance either for financial questions or for a proper habit to try to solve the problems of ordinary health, besides the high frequency of advertisements through the electronic media that is many times a contributing factor for the self-medication of lay people in the subject.⁵³ Self-medication may result in a drug interaction that is when

drugs that are administered concomitantly interact with each other. They can interact in three basic ways: one can potentiate the action of another, can also occur the loss of effects by opposite actions or even the action of a drug altering the absorption, transformation in the organism or the excretion of another drug harming thus the welfare and health mainly of the older people.⁵⁴

Figure 2 Body location of pain experienced by the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil. **Source:** authors.

Through the instrument of the ADLs and IADLs, it was verified that, in general, only 14.28% older women and 23.08% of older men needed help to perform these activities (**Table 4**).

Table 4 Evaluation scores of functional capacity of the Activities of Daily Living (ADLs) and Independent Activities of Daily Living (IADLs) of the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil

Variable	Older women		Older men		Total	
	n	%	n	%	n	%
Scores (points)						
0-83	0	0.00	0	0.00	0	0.00
144-175	18	85.72	10	76.92	28	82.35
Total	21	100.00	13	100.00	34	100.00

Source: authors; n, sample size; %, percentage

0-83, independence, **84-143**, modified dependence (requires 25% help); **144-175**, modified/full independence

The ADLs and IADLs showed to be more complex for the older men with leprosy sequelae than for older women with the same conditions, being this result compatible with the study conducted by Lima.⁵⁵ The general autonomy index of leprosy sequelae was similar to that of the older people who participated in the study by Alves,²⁹ in which only 5.9% of them presented a high dependence. Asked about the level of autonomy to perform ADLs associated with self-care, it was found that 91.18% of the older people do not report any difficulty to feed themselves, but 8.82% do it only with the help of another person at some point, such as when cutting food. With

regard to food preparation, it was observed that 17.65% of the older people performed this activity with a small degree of difficulty due to problems in handling the utensils. This study found that 100.00% of the older people were totally independent to take a bath and no difficulty to perform this activity was reported. Already for dressing, a slight difficulty was reported by only 8.82% of them with no difference between sexes (**Table 5**). As in other studies conducted with older people, there was not much difficulty in bathing taking medication, dressing and eating.^{8,9}

A slight difficulty was observed in the preparation of food, which was also identified in the study by Nogueira,⁹ whose percentage of older people needing assistance was 17.15%, thus being very similar to this research. This study is also compatible with the study conducted by Navarro⁵⁶ in which all the older people had a score compatible with independence in the scale of ADLs.

Another activity analyzed was the ability of the older people to cut their own nails. A greater difficulty was observed among older women (14.29%) who presented to cut their nails (**Table 6**). This difficulty, reported by them was due to the fact that they have the impairment of the peripheral nerves, thus becoming without strength and/or dexterity to perform it. Another fact cited for this level of difficulty was the absence of some essential fingers for the exercise of this activity.

The ability to control the sphincters showed no difference between the sexes. It was observed that among both older people, 67.65% had their urinary continence preserved. Considering the control of the faecal sphincter, 64.61% of them had total control (**Figure 3**). Among the older people studied, 32.35% reported some degree of difficulty in controlling the urinary sphincter. This result was consistent with the study by Nakatani,⁵⁰ in which 28.60% of the older people reported difficulty in controlling the urinary sphincter. Already for faecal sphincter, 35.29% showed difficult to control it, results very different to 6.60% obtained by the former author concluding that the older people have some degree of difficulty in controlling them. When the older people have urinary or faecal incontinence, many times it can go through embarrassing situations, leading them to restrict themselves in their home environment. This condition contributes to diseases such as loneliness, depression and cognitive impairment. It is recommended to the health team to identify and assess the reason for incontinence and create conducts that lead to the recovery of sphincter control.⁵⁰

Asked about the ability of the older people to move, it was found that only 29.41% can walk indoors without help. The percentage of them who considered themselves independent to climb stairs was 32.35%, with no difference between the sexes (**Figure 4**). The difficulty of locomotion, such as walking indoors and climbing stairs, presented by the vast majority of the older people in this study, has also been mentioned in other studies^{9,44,45} but, in particular, in older people with leprosy sequelae left by leprosy, these rates tend to be higher once the Hansen's bacillus reaches the peripheral nerves, deteriorating the sensitivity and functionality of the upper and lower limbs.^{7,8,34}

It was found a great difficulty among older people with leprosy sequelae in using public transportation. There was a prevalence of almost total dependence for this activity among older men reaching the index of 76.92%, while in older women this was 28.57% (**Figure 5**).

Table 5 Comparison of the degree of dependence and independence for the performance of Activities of Daily Living (ADLs) among the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil

Variable	Degree of dependence																Total	
	1		2		3		4		5		6		7					
ADLs/self-care	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Feeding	0	0.00	0	0.00	0	0.00	0	0.00	1	2.94	2	5.88	31	91.18	34	100.00		
Bathe	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	34	100.00	34	100.00		
Food preparation	1	2.94	0	0.00	0	0.00	0	0.00	0	0.00	5	17.65	27	79.41	34	100.00		
Taking medication	0	0.00	0	0.00	2	5.88	1	2.94	0	0.00	1	2.94	30	88.24	34	100.00		
Dress	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	8.82	31	91.18	34	100.00		

Source: authors; n, sample size; %, percentage

D1, total dependence; **D2**, need for 75% help; **D3**, need for 50% help; **D4**, need for 25% help; **D5**, need for supervision; **D6**, need for minimum help; **D7**, independence

Table 6 Degree of dependence for nail clipping among the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil

Variable	Older women		Older men		Total	
Degree of dependence to nail clipping	n	%	n	%	n	%
D1	3	14.29	0	0.00	3	8.82
D2	1	4.76	0	0.00	1	2.94
D3	0	0.00	0	0.00	0	0.00
D4	0	0.00	0	0.00	0	0.00
D5	1	4.76	2	15.38	3	8.82
D6	8	38.10	4	30.77	12	35.29
D7	8	38.10	7	53.85	15	44.12
Total	21	100.0	13	100.0	34	100.0

Source: authors; n, sample size; %, percentage

D1, total dependence; **D2**, need for 75% help; **D3**, need for 50% help; **D4**, need for 25% help; **D5**, need for supervision; **D6**, need for minimum help; **D7**, independence

Figure 3 Degree of control of urinary and faecal sphincters among the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil. Source: authors.

D1, total dependence; **D2**, need for 75% help; **D3**, need for 50% help; **D4**, need for 25% help; **D5**, need for supervision; **D6**, need for minimum help; **D7**, independence.

Figure 4 Degree of dependence to climb stairs and walk indoors among the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil. **Source:** authors.

D1, total dependence; **D2**, need for 75% help; **D3**, need for 50% help; **D4**, need for 25% help; **D5**, need for supervision; **D6**, need for minimum help; **D7**, independence.

Figure 5 Degree of dependence for the use of public transportation among the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil. **Source:** authors.

D1, total dependence; **D2**, need for 75% help; **D3**, need for 50% help; **D4**, need for 25% help; **D5**, need for supervision; **D6**, need for minimum help; **D7**, independence.

According to several studies^{8,34,44,45}, older people were totally independent to use public transportation represented approximately 21.40%. As claimed for these researchers, the older people with leprosy sequelae are in a less favourable situation since they had an enormous difficulty to use public transportation due to several factors, among the main reasons reported were: the lack of strength in the superior (arms) and inferior (legs) to get on, hold and balance in the bus.

In this study, it was found that 28.57% of the older women and 23.07% of the older men had some difficulty standing (Figure 6). In this item, it was observed only the ability of the older people to get up and stand, without taking into account the ability to remain in this position to walk.

Many of the older people had difficulties in walking, since the vast majority had impairments, for example, by amputation of one of the lower limbs making it impossible for them to stand or remain

standing. For this reason, they used trolleys that helped them to move around, but it becomes difficult with these instruments to climb stairs and use public transportation, thus impairing the ability to come and to go for them.

Taking into consideration the ability of these older people to pick up objects on ground/floor, it was found that there were mostly older men with difficulties in relation to older women. Among older men, this difficulty, in general, was present in 76.92% while among older women this was 57.14% (Table 7). In total, 64.71% of older men and older women reported difficulties in picking objects on the ground/floor. It was higher than those found by other researchers,^{57,58} in which about 22.22% of the older people only reported having difficulties in performing this activity. However, all the above-mentioned situations could be overcome if the institutions to adopt some specific physical and psychological activities that surely will go to improve these conditions.^{14,58,59-62}

Figure 6 Degree of dependence to stand among the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil. **Source:** authors.

D1, total dependence; **D2**, need for 75% help; **D3**, need for 50% help; **D4**, need for 25% help; **D5**, need for supervision; **D6**, need for minimum help; **D7**, independence.

Table 7 Degree of dependence to pick up objects on the ground/floor among the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil.

Variable	Older women		Older men		Total	
	n	%	n	%	n	%
To pick up objects on the ground/floor						
D1	0	0.00	1	7.69	1	7.69
D2	5	23.81	3	23.08	8	23.53
D3	3	14.29	2	15.38	5	14.71
D4	1	4.76	0	0.00	1	2.94

Table Continued

Variable	Older women		Older men		Total	
To pick up objects on the ground/floor	n	%	n	%	n	%
D5	1	4.76	1	7.69	2	5.88
D6	2	9.52	3	23.08	5	14.71
D7	9	42.86	3	23.08	12	35.29
Total	21	100.00	13	100.00	34	100.00

Source: authors; n, sample size; %, percentage

D1, total dependence; D2, need for 75% help; D3, need for 50% help; D4, need for 25% help; D5, need for supervision; D6, need for minimum help; D7, independence.

In consonance with the Health Ministry,^{63,58} the functional dependence of older people is almost always associated with loss of autonomy. Once older people demonstrated some degree of dependence to manage their financial resources or to buy food and basic consumer goods, they begin to have their autonomy undermined. As a result, other people will manage their financial assets, they do shop and decide what can or cannot do. The research also showed that about 64.71% of the older people had full autonomy to manage their finances. However, 32.35% reported having some kind of difficulty to properly manage their wages. Some of these are: to go to the bank (receive the money), to make mathematical calculations, among others, thus requiring help from the persons who live with them. Only 2.94% need plenty of help to manage their finances. The results of this study are similar to other researches^{9,28} in other cities of Brazil, in which the index of independent older people to manage their finances was about 55.00%. A slightly higher autonomy was observed among the older people with leprosy sequelae. When asked about the ability to go shopping near their homes, 88.24% of them reported having some degree of difficulty to realize this activity.

On the other hand, to use the telephone, the percentage of older people who had difficulty came out to 17.65%, with no difference between the sexes (Figure 7). They find it difficult to go shopping due to numerous reasons such as problems to move around, impediments to use the money or inability to carry the purchases. This difficulty can be observed in other studies with the older people conducted by Alves et al.²⁹ in which about 79.10% of the older people interviewed needed that their purchases were made by their caregivers.

It was found that the percentage of older people who presented some degree of dependence to perform light domestic cleaning, such as washing dishes and cleaning the bed was 55.80%. There was an increase in this percentage to 76.47% when considering the heavy domestic cleaning, some of them were: sweeping the house, washing clothes and carrying weight (Figure 8). The inability to perform activities such as domestic cleaning or washing clothes may compromise the proper cleaning of the house and of the older people themselves. It can also lead to feelings of guilt or low self-esteem due to the inability to perform such activities independently.

Figure 7 Degree of dependence to use the telephone and to go shopping among the older people with leprosy sequelae in the hospital Dr Geraldo da Rocha, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil. Source: authors.

D1, total dependence; D2, need for 75% help; D3, need for 50% help; D4, need for 25% help; D5, need for supervision; D6, need for minimum help; D7, independence.

In accordance with the data presented above, there is a high level of dependence and need for help in IADLs, which are the most complex activities, such as cleaning the house and shopping. Through these indexes can be constated the existence of gradual loss of functions, going from those deeper involving coordination and reasoning to those of more general actions, such as bathing and dressing. This situation can harm the social life of the older people, since they will need more help from caregivers, having to provide more time, more energy and financial resources to overcome the difficulties installed.^{8,64-69}

Closing remark

Through the application of questionnaires and the observations carried out in the leprosy sector in the Dr Geraldo da Rocha Hospital during this study, we could know some aspects of daily living of older people with leprosy sequelae residents in it, their sociodemographic conditions and also to make an analysis of the functional capacity of these people. In agreement with the results obtained in this study, there was a higher prevalence of leprosy among farmers older

women, older men, and the vast majority of them had an income of one minimum wage, married, illiterate, confirming the tendency of older people in Brazil. Although health and quality of life were reported as good, a significant proportion of them considered that they had serious health problems. A large part of older people had a high degree of dependence on Activities of Daily Living (ADLs), especially with climbing stairs, picking up objects from the floor and cutting their toenails. With respect to the Instrumental Activities of Daily Living (IADLs), the greater difficulties were related to public transportation and to going shopping indicating that it is necessary for prevention actions, health promotion and therapeutic interventions by the Health Strategy Teams to delay the continuous decline of the functional capacity of these older people. Leprosy is a serious public health problem in the Northern Region. Thus, this information from the present study can contribute to the planning of actions, to enhance the quality of care, epidemiological surveillance of the mechanism of the disease, and strengthening of the control program in the city of Manaus or elsewhere.

Figure 8 Degree of dependence, to do household cleaning, found among the older people with leprosy sequelae in the Dr Geraldo da Rocha Hospital, Colônia Antônio Aleixo, Manaus, Amazonas, Brazil. **Source:** authors.

D1, total dependence; **D2**, need for 75% help; **D3**, need for 50% help; **D4**, need for 25% help; **D5**, need for supervision; **D6**, need for minimum help; **D7**, independence.

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Conflicts of interest

The authors declare no conflict of interest.

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